

Title (en)  
POLYMER-LIPID MICROENCAPSULATED GASES FOR USE AS IMAGING AGENTS

Title (de)  
POLYMER-LIPIDE MIKROVERKAPSELTE GASE UND IHRE ANWENDUNG BEI BILDERZEUGENDEN MITTELN

Title (fr)  
GAZ MICROENCAPSULES DANS UN POLYMER ET UN LIPIDE, A UTILISER COMME AGENTS D'IMAGERIE

Publication  
**EP 0957942 B1 20040616 (EN)**

Application  
**EP 97929669 A 19970227**

Priority  
• US 9703007 W 19970227  
• US 68171096 A 19960729

Abstract (en)  
[origin: WO9804292A2] It has been discovered that the incorporation of gases, especially fluorinated gases such as perfluorocarbons, into microparticles formed from the combination of a natural or synthetic polymer and lipid have significantly enhanced echogenicity as compared with microparticles not including the lipid. Compounds other than lipids which are hydrophobic and limit the penetration and/or uptake of water into the microparticles can also be incorporated into the microparticles to enhance echogenicity. In the preferred embodiment, the polymers are synthetic biodegradable polymers. The microparticles are manufactured with a diameter suitable for the targeted tissue to be imaged, for example, with a diameter of between 0.5 and 8 microns for intravascular administration, and a diameter of between 0.5 and 5 mm for oral administration for imaging of the gastrointestinal tract or other lumens. Preferred polymers are polyhydroxy acids such as polylactic acid-co-glycolic acid, most preferably conjugated to polyethylene glycol or other materials inhibiting uptake by the reticuloendothelial system (RES). The most preferred lipids are phospholipids, preferably dipalmitoylphosphatidylcholine (DPPC), distearoylphosphatidylcholine (DSPC), diarachidoylphosphatidylcholine (DAPC), dibehenoylphosphatidylcholine (DBPC), ditricosanoylphosphatidylcholine, dilignoceroylphatidylcholine (DLPC), incorporated at a ratio of between 0.01-30 (w lipid/w polymer), most preferably between 0.1-10 (w lipid/w polymer). Microparticles for imaging using other detectable agents can be similarly manufactured.

IPC 1-7  
**A61K 49/00**

IPC 8 full level  
**A61K 49/00** (2006.01); **A61K 49/22** (2006.01); **C08J 3/20** (2006.01)

CPC (source: EP KR US)  
**A61K 49/00** (2013.01 - KR); **A61K 49/0002** (2013.01 - EP US); **A61K 49/0004** (2013.01 - EP US); **A61K 49/223** (2013.01 - EP US)

Cited by  
US10022460B2; US10583207B2; US10588988B2; US11395856B2; US9789210B1; US9913919B2; US10220104B2; US10583208B2; US11266749B2; US11266750B2; US11344636B2; US11529431B2; US11857646B2; US11925695B2

Designated contracting state (EPC)  
AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 9804292 A2 19980205; WO 9804292 A3 19980514;** AT E269107 T1 20040715; AU 3367297 A 19980220; AU 720727 B2 20000608; BR 9711109 A 19990817; BR 9711109 B1 20100810; CA 2260938 A1 19980205; CA 2260938 C 20030506; CN 1092989 C 20021023; CN 1226836 A 19990825; CZ 32899 A3 19990714; DE 69729579 D1 20040722; DE 69729579 T2 20050915; DE 69729579 T3 20081106; DK 0957942 T3 20041025; DK 0957942 T4 20080721; EP 0957942 A2 19991124; EP 0957942 B1 20040616; EP 0957942 B2 20080416; ES 2223080 T3 20050216; ES 2223080 T5 20081101; HK 1023939 A1 20000929; HU 226584 B1 20090428; HU P0000392 A2 20000828; HU P0000392 A3 20000928; ID 17646 A 19980115; IL 128163 A0 19991130; IL 128163 A 20020310; JP 2987212 B2 19991206; JP H11505272 A 19990518; KR 100477876 B1 20050322; KR 20000029639 A 20000525; MY 130324 A 20070629; NO 318460 B1 20050321; NO 990402 D0 19990128; NO 990402 L 19990322; NZ 333864 A 19990429; PL 188011 B1 20041130; PL 331487 A1 19990719; PT 957942 E 20041029; TW 480176 B 20020321; US 5837221 A 19981117; ZA 971813 B 19971128

DOCDB simple family (application)  
**US 9703007 W 19970227;** AT 97929669 T 19970227; AU 3367297 A 19970227; BR 9711109 A 19970227; CA 2260938 A 19970227; CN 97196876 A 19970227; CZ 32899 A 19970227; DE 69729579 T 19970227; DK 97929669 T 19970227; EP 97929669 A 19970227; ES 97929669 T 19970227; HK 00103029 A 20000522; HU P0000392 A 19970227; ID 970682 A 19970305; IL 12816397 A 19970227; JP 50876498 A 19970227; KR 19997000708 A 19990128; MY PI9700890 A 19970305; NO 990402 A 19990128; NZ 33386497 A 19970227; PL 33148797 A 19970227; PT 97929669 T 19970227; TW 86102919 A 19970310; US 68171096 A 19960729; ZA 971813 A 19970303